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ABSTRACT

This research abstract describes two studies: first, "Class Instructional Programs with Autistic Children; Group Structures and Tutoring Models" (Debra M. Whorton et al.) and, second, "The Use of Explicitly Trained Peers To Facilitate the Social Behavior of Autistic Children" (Andrew Egel and Michael Shafer). Both studies investigated effective peer tutoring and group instruction techniques for use with students who have autism. The first study developed a package to train mildly disabled students in facilitating specific social behaviors of their peers with autism. The peer training program included modeling of target behaviors. Results indicated that all peer trainers increased their interaction with students with autism. The number of training sessions required to stabilize improved interactions varied among peer trainers. All of the students with autism showed marked, but variable, improvement in their behavior, and these improvements generalized to free play sessions after training. The second study involved a series of investigations of the effects of group structure on the learning and behavior of students with autism and developmental disabilities. The investigations focused on peer tutoring and a comparison of small-group instruction to one-to-one instruction. The investigations demonstrated that: (1) students with disabilities can effectively tutor their peers; (2) nondisabled peers can effectively tutor students with autism and manage off-task and self-stimulatory behaviors; and (3) small group instruction can be superior to one-to-one instruction in terms of student performance. (JDD)

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PEER TUTORING AND SMALL GROUP INSTRUCTION

Autism is characterized by a variety of behaviors, including self-stimulatory responses and deficient, oppositional, or aggressive social behavior. Studies of instructional formats for students who have autism are concerned with the effects of the format not only on academic learning, but also on self-stimulatory and off-task behavior. Although a one-to-one format has traditionally been used in teaching students with autism, recent studies have investigated the use of peer tutoring, peer-moderated training procedures, and small group instruction. These formats promote social interaction and use the teacher's time more efficiently.

Two studies, *The Use of Explicitly Trained Peers to Facilitate the Social Behavior of Autistic Children* and *Classroom Instructional Programs with Autistic Children: Group Structures and Tutoring Models*, investigated effective peer tutoring and group instruction techniques. The first study developed a package to train mildly handicapped students in facilitating specific social behaviors of their autistic peers (e.g., sharing).

The second study involved a series of investigations of the effects of group structure on the learning and behavior of autistic and developmentally disabled students. Some of these experiments used the CISSAR-SPED coding system adapted by the project to represent the ecology and behavior—that is, curriculum, structure, and teacher and student behaviors—occurring in special education classrooms. This project also developed a teacher training manual describing: (a) a procedure for training handicapped students as peer tutors, (b) a procedure for training nonhandicapped students as peer tutors, and (c) a procedure for implementing small group instruction in special education classrooms.

HANDICAPPED PEER TUTORS

The first study, in which mildly handicapped peers acted as trainers, involved three groups of four children. Each group included a student with autism and three mildly handicapped peers whose ages ranged from 5 1/2 to 8 1/2 years. The children were observed during free play sessions, and the mildly handicapped peer who most often had positive interactions with the subject was selected to be the peer trainer.

The study used a multiple baseline design, with the initial free-play sessions serving as the baseline phase. Baseline data were collected by videotaping, after which the peer trainer was given a program that included modeling of target behaviors. Each session lasted about 20 minutes, with 3 to 5 interactions modeled. After the modeling, the peer trainer played with the subject and intermittent feedback was provided for 5 minutes; data were then collected for 5 minutes with no feedback provided. These training sessions continued until the peer trainer exhibited a level of positive interaction with the subject that was comparable to that directed toward the other peers during the baseline phase. The following day, free-play observations with the remaining peers were resumed and post-training data were collected.

The videotapes were analyzed for verbal and motor behaviors, which were categorized as either positive or negative. Whether the behavior was an initiation or a response was also noted, as were the frequency and duration of interactions.

Results indicated that all peer trainers substantially increased their interaction with students with autism. The number of training sessions required to stabilize improved interactions varied among peer-trainers. All of the students with autism showed marked, but variable, improvement in their behavior, and these improvements generalized to free-play sessions after the training.

The second study used a single-subject, multiple baseline design to investigate a training program to teach a higher functioning peer with autism to tutor a lower-functioning student who also had autism. The training consisted of prompts and feedback from the teacher; for each step in the tutoring, teacher prompts were gradually faded, and the student was considered to have learned the step when he responded with at least 80% accuracy without teacher prompts. The steps were reading a command card to the student, waiting for the student's response, praising the student for correct responses, turning the next card over, discriminating between correct and incorrect responses, modeling correct behavior following incorrect responses, and telling the teacher when the session was over.

The tutoring program enabled the students to interact with each other without the teacher acting as the primary agent. The student who was tutored learned each of the three tasks he was taught, and the peer tutor learned tutoring skills which generalized to other tasks.

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NONHANDICAPPED PEER TUTORS

Another experiment conducted as part of the second study investigated the use of nonhandicapped fifth grade peer tutors in a self-contained public school classroom. A multiple baseline design across three tasks (in math, language, and reading) was used to assess the effects of the tutoring on academic learning for two students. Following training, nonhandicapped tutors conducted 30-minute tutoring sessions three mornings per week on selected tasks. The sessions consisted of 20 minutes of instruction and 10 minutes of social interaction. Feedback was given to tutors and students intermittently throughout the course of the program. Successful learning was demonstrated by both subjects on all three tasks. In addition, the regular class peers served as volunteers on community outings and set an example to other students by initiating contacts with the autistic students during lunch and school-wide activities.

SMALL GROUP INSTRUCTION

The remainder of the second study compared collective and individualized small-group instruction to one-to-one instruction for students who had either autism or developmental disabilities. Content areas included language, recreation, socialization, and prevocational and vocational skills. The small groups included three to six students, and lessons were presented using a discrete trial format. In collective instruction, the teacher instructed all students simultaneously. In individualized group instruction, the teacher instructed students individually, while reinforcing other members of the group for working independently or delivering other behavioral contingencies as needed. Combined individual and collective instruction involved alternating learning trials among the group members.

These studies used within-subjects multiple baseline designs and pre/post experimental designs. They took place in various educational settings: a private day school for severely handicapped students, a work activity center, and self-contained public school classrooms. They found that small group instruction produced improved task acquisition for students, higher rates of correct response during instructional sessions, higher frequencies of interaction between teachers and students, and higher levels of reinforcement.

Once the program for peer tutors and the small group instruction techniques had been developed, validated, and replicated, a manual describing the techniques was written. The manual includes sections on selecting students and classrooms, specific steps for implementation, descriptions of the various instructional procedures, and data collection and evaluation methods.

IMPLICATIONS

These investigations demonstrated that

- Handicapped students can effectively tutor their peers.
- Nonhandicapped peers can effectively tutor students with autism and manage off-task and self-stimulatory behaviors.
- Small group instruction can be superior to one-to-one instruction in terms of student performance in several curriculum areas; it provided higher levels of teaching time, correct student response, teacher-to-student interaction, and student-to-student interaction, while on-task behavior and comparable levels of self-stimulation were maintained.

Class Instructional Programs with Autistic Children; Group Structures and Tutoring Models. 1986. 150 pp. Debra M. Whorton, Joseph Deiquadri, and R. Vance Hall, University of Kansas. U.S. Department of Education Grant No. G008300068. Available for $.82 (microfiche) or $11.64 (hard copy), plus postage, from ERIC Document Reproduction Service, 3900 Wheeler Avenue, Alexandria, VA 22304 (1-800-227-3742). EC 202 840; ED number is not yet available.

The Use of Explicitly Trained Peers to Facilitate the Social Behavior of Autistic Children. 1983. 63 pp. Andrew Egel and Michael Shafer, University of Maryland. U.S. Department of Education Grant No. G008200138. Available for $.82 (microfiche) or $5.82 (hard copy), plus postage, from ERIC Document Reproduction Service, 3900 Wheeler Avenue, Alexandria, VA 22304 (1-800-227-3742). EC 202 839; ED number is not yet available.

Alternative Instructional Strategies for Students with Autism and Other Developmental Disabilities: Peer Tutoring and Group Teaching Procedures. Debra Whorton, Dale Walker, Jill McGrale, David Rotholz, and Peggy Locke. Available for $8.00 from Pro-Ed, 5341 Industrial Oaks Boulevard, Austin, TX 78735. Order No. 1424.

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